

EXHIBIT C

Expert Witness Report of Jason D. Kennedy, M.D.

Expert Witness Report

***DANIEL LOVELACE and HELEN LOVELACE, Individually, and as Parents
of BRETT LOVELACE, Deceased, vs. PEDIATRIC ANESTHESIOLOGISTS,
P.A.; BABU RAO PAIDIPALLI; and MARK P. CLEMONS***

* * * * *

Prepared by: Jason D. Kennedy, M.D.

**Prepared for: Mark Ledbetter
Halliburton and Ledbetter**

I, Jason D. Kennedy, M.D., declare and state as follows:

I am over the age of 18 and have personal knowledge of the facts stated in this report.

I graduated from the University of Alabama School of Medicine in June 2003. I completed an internship at Carraway Methodist Medical Center in Birmingham, Alabama; a residency in anesthesiology from the University of Alabama at Birmingham Medical Center, Birmingham, Alabama from July 2004 through June 2007; a fellowship in Critical Care Anesthesiology from Emory University Medical Center, Atlanta, Georgia; and, a fellowship in cardio-thoracic Anesthesiology from Emory University Medical Center, Atlanta, GA. I have been a licensed medical doctor in the state of Tennessee with a specialty in Anesthesiology since June 8, 2010, and my Tennessee medical license number is 46094. My qualifications are set forth in my c.v. attached hereto.

I am currently an Assistant Professor of Clinical Anesthesiology at Vanderbilt University in Nashville, Tennessee, and have been in this position from July 2010 to present. Prior to my current position, I was an Instructor in Anesthesiology, Department of Anesthesiology, University of Alabama Birmingham-UAB (Birmingham, AL).

I have reviewed the medical records of Brett Lovelace for the hospitalization of March 12, 2012 through March 14, 2012 from LeBonheur Children's Medical Center. I have also reviewed the following:

- (a) Depositions of the parties;
- (b) Discovery;
- (c) Photographs of Brett Lovelace at LeBonheur; and
- (d) Pleadings.

I am familiar with the applicable standards of care and issues in this case specifically regarding anesthesiology treatment and care, medical, surgical and post-surgical/PACU care, in and for the Memphis area and hospital where the incident occurred,¹ and my opinions are set forth as follows:

¹ I belong to the American Society of Anesthesiologists [ASA] and the Society of Cardiovascular Anesthesiology [SCA], both organizations with physicians practicing in Memphis, Knoxville, Chattanooga, and surrounding areas; I attend meeting[s] of the ASA and SCA where physicians, including anesthesiologists from Memphis, Nashville, Knoxville, Chattanooga and surrounding areas attend; that I have been to Memphis three or four times; that I am familiar with and have worked surgical cases with ENT physicians as well and am familiar with their standard of care in the surgical context as respects the continued need to protect the patient's airway and ventilation and with the safety practices which were not followed in this case, *viz.*, safe positioning, airway patency, supplemental oxygen needed post-surgery and in the PACU; that the communities of Nashville, where I practice, and Memphis are of comparable size; the medical communities adhere to similar practices and rules; there are more than 15 hospitals in Nashville and Memphis; each city has a hospital reported to be among the 100 largest hospitals in

1. I have reviewed the medical records of Brett Lovelace which were provided to the attorney for the Lovelace family for the dates of hospitalization in March of 2012 from LeBonheur Children's Medical Center.

2. Defendants failed to follow the proper standard of care in that they failed to appropriately ensure that Brett was appropriately and safely monitored and assessed in the PACU. There are no records of them assessing the patient in the recovery room until after the initiation of the code, a period of about an hour. Both physicians agreed that such monitoring and assessment was necessary, but neither assured nor verified that proper positioning, proper supplemental oxygen or proper monitoring occurred or was provided.² Anesthesiologist supervision was needed until the patient, Brett Lovelace, was awake and maintaining his own airway.

3. Defendants failed to follow the proper standard of care in that they failed to appropriately ensure that Brett had fully emerged from and recovered appropriately from the anesthetic prior to the removal of the endotracheal tube. Brett's documented tidal volumes prior to extubation were a mere 145-180 cc's, this is a very small tidal volume for an 81 kg child. This, combined with documented hypercarbia, makes it unlikely that he was ventilating adequately at the time of extubation. Brett's high end tidal CO₂ level of 56 torr, as recorded on the anesthetic record, support the assertion that appropriate assessment and attention would have prevented his subsequent hypoxemia and acidosis.

4. The Defendants failed to follow standards of care in that they failed to ensure adequate ventilatory support in a patient who was obese, with sleep apnea. Brett's initial arterial blood gas (ABG) is recorded as a pH of 6.70, a partial pressure of CO₂ of 96/, a partial pressure of oxygen of PaO₂ 502/ HCO₃ of 12. This ABG was performed after at least 10 minutes of positive pressure ventilation, since per the code note, he was reintubated at 1204 and the first blood gas is reported to be at 1218. Therefore, the initial CO₂ was likely much higher. There is a sample that is reported to be a venous sample that has a pH of 6.59, a CO₂ of >130. This is an incredible amount of hypercarbia resulting likely a prolonged period of hypoventilation as consistent with a patient who was extubated in a non-fully awakened state (deep extubation) and without appropriate insurance that he was maintaining adequate respiratory rate and tidal volumes. This was a clear breach of the standard of care in any patient who had undergone a general anesthetic, and especially true in an obese child with sleep-deprived breathing who undergoes tonsillectomy.

5. Defendants failed to follow the proper standard of care in that they failed to appropriately ensure that Brett had adequate oxygen supplementation in the post-anesthesia care

America, e.g., BMH, Memphis, and VUMC, Nashville; and I have attended CME with Memphis anesthesiologists, e.g., New Horizons in Anesthesiology, and studied and learned the same principles and methods, as well as in medical school.

² See Clinical Practice Guideline: Tonsillectomy in Children, Baugh, et. al., Otolaryngology - Head and Neck Surgery 2011 144: S1; Guidelines for Patient Care in Anesthesiology, American Society of Anesthesiologists, October 29, 2011, Section I - III, including post-anesthetic care.

unit (PACU). Defendants failed to reaffirm airway patency and adequacy of breathing. Defendants should have continued delivery of oxygen by mask to Brett Lovelace until his recovery was complete. Further, Defendants failed to maintain airway patency with simple airway maneuvers or oro-nasopharyngeal airway until the patient was fully awake. Neither Defendant could explain these lapses, but both agreed that such steps were required and standard.

6. Defendants failed to follow the proper standard of care in that they failed to appropriately ensure that Brett was appropriately monitored in the post anesthesia care unit. A patient in the prone or knee-chest position is difficult to monitor and ensure adequate oxygenation. Dr. Paidipalli did not attend the patient in the PACU, reportedly and admittedly; and Dr. Clemons did nothing to correct Brett Lovelace's position when he saw him prone and on his face without oxygen support. Placing Brett Lovelace in a left lateral or semi-prone ("tonsil position"), slight head-down position, with a pillow under the chest to allow secretions and blood to drain, was necessary, as well known, but not done, here, which was a failure to follow the pertinent standard of care.³

7. The ENT surgeon failed to follow standards of care in that he failed to appropriately care for and recognize that Brett was not fully awakened from anesthesia. He also failed to appropriately intervene by his lack of any personal action in the care of Brett or by not calling for an appropriate trained anesthesiologist to ensure that Brett was oxygenating and ventilating appropriately. An ENT surgeon routinely cares for such patients and should have known to intervene at the time he saw Brett in the PACU.

8. The ENT surgeon failed to follow standards of care in that he failed to intervene in Brett's poor positioning for a patient who was at high risk of respiratory compromise. By documentation, he saw Brett in the PACU in the knee-chest prone position prior to his arrest, and did not act appropriately to correct the situation.

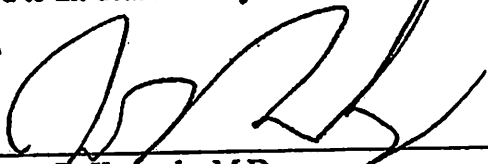
9. Neither physician appropriately followed up on the possibility of the most likely anesthetic complication and cause of death in patients undergoing T & A – bleeding or loss of airway. Neither arranged for adequate follow-up and evaluation by themselves, a CRNA or the nursing staff. The suggestion that clinical judgment is appropriate for post-anesthetic care in this case is analogous to the judgment that a pilot uses when operating an airplane; however, the judgment of a physician is also based upon instruments similar to those that provide objective information and data to a pilot. For example, in a storm, a pilot must disregard his physical senses and use the instruments to appropriately fly the airplane. By analogy, the anesthesiologist, like the pilot, has to have an objective sense of the standard physiology variables in order to "land the plane" or bring the patient safely out of anesthesia. In this case, clinical judgment is not a proper substitute for failure to pay attention to the details and condition of the patient, and to use customary and accepted safeguards.

10. Neither physician adequately observed the patient in the PACU so as to be able to exercise any judgment whatsoever. The patient was abandoned. It does not appear that either physician advised the PACU nursing staff of the risks of this particular patient. The

³ Guidelines, Difficult Airway Society Guidelines For the Management of Tracheal Extubation,, Anesthesia 2012, 67, 318-340, Table 3.

anesthesiologist did not ensure that there was an adequate transfer of care information nor remain with the patient as long as medically necessary nor ensure that the patient was discharged from the PACU unit in accordance with proper anesthesiology policies. The ENT surgeon did no better. See fn. 2, Guidelines for Patient Care in Anesthesiology, supra, at III, E, 1-6.

The foregoing opinions are rendered to a reasonable degree of medical certainty; it is further my opinion that the lack of attention and supervision, and failure to follow the appropriate standard of care, directly caused and contributed to the death of 12-year old Brett Lovelace.



Jason D. Kennedy, M.D.

Curriculum Vitae

Name: Jason D. Kennedy
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Education

08/1999 - 06/2003 M.D. in Medicine from University of Alabama School of Medicine, Birmingham, AL

Training

1992 - 1999 B.A. from UAB, Birmingham Alabama
07/2003 - 06/2004 Internship from Carraway Methodist Medical Center, Birmingham, AL
07/2004 - 06/2007 Residency in Anesthesiology from University of Alabama at Birmingham Medical Center, Birmingham, AL
07/2008 - 07/2009 Fellowship in Critical Care Anesthesiology from Emory University Medical Center, Atlanta, GA
07/2009 - 07/2010 Fellowship in Cardio-thoracic Anesthesiology from Emory University Medical Center, Atlanta, GA

Licensure and Certification

N/A American Board of Anesthesiology, Diplomat of the ABA of Not Specified
N/A American board of anesthesiology, Speciality certification in Critical Care medicine of Not Specified
2010 - 06/2020 American Board of Echocardiography, Special Competence in Advanced Perioperative Transesophageal Echocardiography (2010-00022268)
06/2010 - 06/2014 Tennessee medical license, Medical License of Tennessee (46094)

Academic Appointments

07/2008 - 07/2009 Instructor in Anesthesiology, Department of Anesthesiology, University of Alabama Birmingham-UAB (Birmingham, Alabama)
07/2010 - Present Assistant Professor of Clinical Anesthesiology, Vanderbilt University (Nashville, Tennessee)

Professional Organizations

American Society Of Anesthesiologist
Society of Cardiovascular Anesthesiologist

Professional Activities

Intramural

10/10 - Present Therapeutic hypothermia, Medicine, Intensive care representative to this group, Physician representative to this group alongwith Dr. Wagner
02/2011 - Present Pharmacy and therapeutics, Pharmacology, represent intrest of the Department and the hospital to the P and T committee. Full voting member., Anesthesiology representative
01/2012 - Present ICU Ultrasound, Anesthesiology, Developing standardized ultrasound curriculum for Intensive Care Fellows and Anesthesiology Residents

Teaching Activities

N/A	Hemodynamic Echo monitoring: Assesment of LV and RV function and clinical applicability, Simulation center
05/2010 - Present	Lung Isolation In Thoracic Surgery, Instructor
08/2010 - 2011	Perioperative managment of Aortic Dissections, Lecture and Group discussion, Fellows lecture room
08/2010 - 07/2011	Postoperative managment of Cardiac surgery patients, lecture and group discussion, Fellows conference room
09/2010 - Present	Echo In the ICU
10/2010 - Present	Neuroprotection and Cardiac Surgery
11/2010 - Present	Modes of Ventilation in the ICU and OR
12/2010 - Present	ICU for Cardiac Surgery
02/2011 - 02/2011	Vasoplegia in the Cardiac operating Rooms, Lecture and group discussion
04/2011 - Present	ICU and Cardiac Surgery
05/2011 - Present	ICU and Cardiac Surgery
10/2011 - Present	ICU for Cardiac Surgery
12/2011 - Present	Lung Isolation in Thoracic Surgery
02/2012 - Present	Pulmonary Hypertension
02/2012 - Present	Vasoplegia in the OR and ICU
02/2012 - 02/2013	Vasoplegia in Cardiac surgery, Lecturer, Monthly lecture on Vasoplegia in CT surgery and Critical Care
09/2012 - Present	Echo Bootcamp for ICU fellows, Course Director, Vanderbilt University, Developed a two day course to acclimate and familirize fellows in the perioperative use of echocardiography and ultrasound for critically ill patients.
12/2012 - 2013	Right Heart Dysfunction in the Operating Room, Lecturer, Lectured for one hour on Right heart failure in the perioperative enviornment
01/2013 - 01/2013	Medical Student UImmersion COurse: Managment of valvular disorders, Lecturer, Vanderbilt University, Taught A small group case based one hour lecture on valvular abnormalities

Other Significant Activities

02/2012	Blood conservation in the ICU: Developed evidence based approach to Factor VIIa utilization and product managment .This has led to the dramatic reduction in the utilization of Factor VIIa with a costs savings of about half a million dollars in factor VIIa alone.
07/2012	Course director for Critical Care fellows rotation in Ultrasound/echo: Developed syllabus, course and lecture series for ICU fellows to become profecient in the use of Cardiac, thoracic and occular ultrasound.
11/2012	Extra-Corporeal Life Support Course : Veno-venous ECMO Course for adult Respiritory failure
01/2013	Medical director of Clinical Perfusion- Vanderbilt University: Clinicl Director of Perfusion- Act as a liason for perfusionist and help to develop protoclts for ECMO and transfusion services for VHVI

Honors / Awards

2003	Alpha Omega Alpha Honor Society
2004	Top Ten Teacher of the Year Award, Department of Anesthesiology UAB

Publications

Non-Peer Reviewed Publications

Abstracts

1. Costello W, Billings F, Bick J, Kennedy J, Wagner C. Transesophageal Echocardiography as a Hemodynamic Monitor in Post Operative Cardiac Surgery Patients. 2011 Oct.

Research Articles

1. Kennedy JD, Sweeney TA, Roberts D, O'Connor RE. Effectiveness of a medical priority dispatch protocol for abdominal pain. 2003 Jan;89-93. PMID: 12540150.

Book Chapters

1. Wagner, Ashby, Kennedy. Anesthesiology: A comprehensive Review for the Written Boards and Recertification Edited by Kai Matthes, Richard Urman, and Jesse Ehrenfeld . 2012 Nov;Chapter 20.

Presentations

Invited Presentation - Regional

1. Tennessee perfusionist society. Nashville, Tennessee. 2011 Sep 24; Colloids vs. Crystalloids in Cardiac surgery.

Internal Grand Rounds

1. Grand Rounds Department of Anesthesiology. Nashville, Tennessee. 2013 Feb 1; Perioperative management of Right Ventricular failure.

Presentations at Scientific Meetings

1. Costello, Bick, Wagner, Billings, ASA-SOCCA, American Society of Anesthesiologist; Chicago, Illinois. 2011 Oct; Transesophageal Echocardiography as a Monitor in Post Operative Cardiac Surgery Patients.